

**UNION SCHOOL DISTRICT
354 Baker Street, Suite 2
Rimersburg, PA 16248
Telephone 814-473-6311
Fax 814-473-8201**

April 11, 2014

Security Camera Upgrade Project

To Whom it May Concern:

Union School District is currently seeking bids for the upgrade/replacement of our existing security camera system. Our current configuration includes: The High School building with 4 SOHO, Sligo Elementary building with 2 SOHO DVR systems that house up to 16 analog cameras each. We desire to continue to use those analog cameras with the new system but replace the SOHO grade DVRs with enterprise level equipment. Alternately, we may wish to purchase ip cameras to replace our existing analog cameras. **Sealed bids are due by 2:00 pm May 2, 2014.** Questions can be directed to Bryan Eaton, Technology Director at 814-473-3121 x6 or via email eatonbj@unionsd.net.

Thank you for your interest.

Respectfully,

Bryan Eaton
Technology Director

INSTRUCTIONS TO BIDDERS

1. **Sealed Bids** will be received **NOT LATER THAN 2:00 pm, May 2, 2014** at the Union School District, Central Office, 354 Baker St., Suite 2, Rimersburg, PA 16248. **A signed bid proposal form should accompany all bids.**
2. The District reserves the right to reject any and all bids.
3. The Scope of the project is to provide the one time purchase of equipment and installation necessary to implement this solution.
4. Union School District is exempt from state sales tax and will furnish a Tax Exemption Certificate when requested.
5. Bid prices shall reflect all discounts to the purchaser.
6. Any delivery charges to Union School District must be reflected in the bid prices.
7. Bid totals should be for each building and if the Vendor is awarded both buildings, any discounts should be reflected in the bid price for the total package.
8. In the event that Union School District has accepted and paid for this service, but should discover at a later date that this service does not conform to specifications or other quality standards as stated, the bidder shall replace any or all of the service(s) received by Union School District with service(s) that meet the specifications and conforms to the standards as stated, without extra charge to Union School District.
9. The requirements/specs for this project are listed at the bottom of this document.
10. **All specific items listed in the specs are for reference only.** If you use other items that what is listed in the specs, please list on the deviation form and attach supporting documentation.
11. There is a scheduled walk through on April 22, 2014 at 10:00 am. The walk through will begin at the High School. Please notify via email to Bryan Eaton that you will be attending this walk through.
12. Bid #1 is for the VMS only. Alternate Bid for the VMS and Camera replacement. If the Alternate Bid (VMS and Cameras) is chosen, Union School District will be responsible for all PoE devices and Patch Panels to connect the IP cameras to the existing network.

Timeframe

- Sealed Bids are due by 2:00pm Friday May 2, 2014 to Union School District Business Office
- Bids will be opened at 2:01 pm Friday May 2, 2014 in the Business Office
- The bid is expected to be awarded on May 16, 2014. Notification of the awarded bid will be posted on the district's website at that time.
- Installation should begin once school is out of session - Approximately June 9, 2014 (Date subject to change)
- Installation must be completed by August 15, 2014

UNION SCHOOL DISTRICT – Security Camera Upgrade Project

Bid Proposal Price Form - Summary

I, the bidder, certify that I have familiarized myself with the specifications, carefully read them, and understand their content. I further certify that any service/goods furnished by me/us will be in accordance with specifications as requested except for any deviations as listed on the **BID PROPOSAL – DEVIATION FORM**.

Company Name

Date

Print Name

Authorized Signature

Title

Address

Telephone

E-Mail

Bid #1 (VMS Only)

Totals should be based on 1 Yr Warranty and 1 Year Licensing

Sligo Elementary Bid Price	\$ _____
Union High School Bid Price	\$ _____
Total Package Bid Price	\$ _____

Alternate Bid (VMS and Cameras)

Totals should be based on 1 Yr Warranty and 1 Year Licensing

Sligo Elementary Bid Price	\$ _____
Union High School Bid Price	\$ _____
Total Package Bid Price	\$ _____

UNION SCHOOL DISTRICT – Security Camera Upgrade Project

Bid Proposal Price Form – Detail

Bid #1 (VMS Only)

Union High School

Encoders to support existing Analog Cameras	\$ _____
Installation Cost	\$ _____
Licensing Cost (write Included if applicable)	
1 Year	\$ _____
3 Year	\$ _____
5 Year	\$ _____
Warranty (write Included if applicable)	
1 Year	\$ _____
3 Year	\$ _____
5 Year	\$ _____
VMS Server	\$ _____
Total Price with 1 Year Warranty and 1 Year Licensing	\$ _____

Sligo Elementary

Encoders to support existing Analog Cameras	\$ _____
Installation Cost	\$ _____
Licensing Cost (write Included if applicable)	
1 Year	\$ _____
3 Year	\$ _____
5 Year	\$ _____
Warranty (write Included if applicable)	
1 Year	\$ _____
3 Year	\$ _____
5 Year	\$ _____
VMS Server	\$ _____
Total Price with 1 Year Warranty and 1 Year Licensing	\$ _____

UNION SCHOOL DISTRICT – Security Camera Upgrade Project

Bid Proposal Price Form – Detail con't.

Alternate Bid (VMS and Cameras)

Union High School

VMS Server \$ _____

Storage Sized Spec _____

FPS Spec _____

Resolution Spec _____

VMS Installation Cost \$ _____

VMS Licensing Cost (write Included if applicable)

1 Year \$ _____

3 Year \$ _____

5 Year \$ _____

VMS Warranty (write Included if applicable)

1 Year \$ _____

3 Year \$ _____

5 Year \$ _____

VMS Total with 1 Yr Warranty & 1 Yr Licensing \$ _____

Cameras (Attach Supporting Specs for Cameras used)

	Qty	Description	Unit Price	Ext. Price
Indoor Dome - E94				
Outdoor Bullet – E46				
Indoor 360 – KCM-3911				
Licensing 1Yr				
Licensing 3Yr (Alt)				
Licensing 5Yr (Alt)				
Warranty 1Yr				
Warranty 3Yr (Alt)				
Warranty 5Yr (Alt)				
Installation				
Camera Total with 1 Yr Warranty & 5 Year Licensing				

Union High School

VMS and Camera Total Price with 1 Year Warranty and 1 Year Licensing \$ _____

UNION SCHOOL DISTRICT – Security Camera Upgrade Project

Bid Proposal Price Form – Detail con't.

Alternate Bid (VMS and Cameras)

Sligo Elementary

VMS Server \$ _____

Storage Sized Spec _____

FPS Spec _____

Resolution Spec _____

VMS Installation Cost \$ _____

Licensing Cost (write Included if applicable)

1 Year \$ _____

3 Year \$ _____

5 Year \$ _____

VMS Warranty (write Included if applicable)

1 Year \$ _____

3 Year \$ _____

5 Year \$ _____

VMS Total with 1 Yr Warranty & 1 Yr Licensing \$ _____

Cameras (Attach Supporting Specs for Cameras used)

	Qty	Description	Unit Price	Ext. Price
Indoor Dome - E94				
Outdoor Bullet – E46				
Indoor 360 – KCM-3911				
Licensing 1Yr				
Licensing 3Yr (Alt)				
Licensing 5Yr (Alt)				
Warranty 1Yr				
Warranty 3Yr (Alt)				
Warranty 5Yr (Alt)				
Installation				
Camera Total with 1 Yr Warranty & 5 Year Licensing				

Sligo Elementary

VMS and Camera Total Price with 1 Year Warranty and 1 Year Licensing \$ _____

UNION SCHOOL DISTRICT – Security Camera Upgrade Project

Bid Proposal Deviation Form

This deviation form is intended to help the district in the evaluation of items or services substituted to specifications listed. In the event that the Undersigned Bidder intends to deviate from the specifications by utilizing any materials/services not exactly matching those listed as standard in the specifications, the Undersigned Bidder must complete this Deviation Form in detail.

Each deviation **must be listed** with the deviated item/service, substituted item/services, and the reason for the deviation. If additional space is needed please attach and clearly mark “Bid Proposal Deviation Attachment #”.

If your bid proposal has no deviations from the bid specifications, please write NONE below and return with the other BID PROPOSAL Forms.

The district reserves the right to accept or reject any or all deviations in the best interest of the school district.

DEVIATED ITEM

SUBSTITUTED ITEM

REASON

Model and Part Number

Indoor Dome Camera – ACTi E94

Outdoor Bullet Camera – ACTi E46

Indoor 360 Camera – ACTi KCM-3911

(Company Name)

(Signature)

(Title)

(Date)

Bid Deviation Sheet – attach additional sheets if needed.

TECHNICAL SPECIFICATIONS
SECURITY VIDEO SYSTEM AND CONTROL SYSTEM

SECURITY SYSTEM

1 GENERAL

1.1 SYSTEM DESCRIPTION

CCTV system should be designed such as to cover the strategic locations and sensitive areas of Union School District for comprehensive surveillance and monitoring. High Resolution cameras, along with Panamorphic cameras are to be installed for indoor and outdoor security application.

System should be programmed such that operator's intervention if required shall be minimal and the system should provide features like guard tours, preset positions and the preset positions will be linked to perimeter protection system/intrusion system in future. The VMS should allow for recording of events both continuous and motion triggered as per requirement and recordings should be able to create evidences and support post event analysis. A minimum of 60 days recording, 5 hours per day, at each cameras maximum resolution, and a minimum frame rate of 15 FPS is required.

All Cameras must be IP Based Cameras

All NVR's must be Network based NVR's and include Web, and Mobile Clients

1.2 CODES AND STANDARDS

- A. Work shall be performed in accordance with all the applicable national and local codes or standards current at the commencement of installation
- B. Where more than one code or regulation is applicable, the more stringent regulation shall apply.

2 PRODUCTS

2.1 NETWORK VIDEO RECORDER SOFTWARE OVERVIEW

- A. Introduction
The VMS server must provide distributed network video surveillance solution with full functionality. The software must support a centralized management, real-time monitoring and recording of up to 200 video streaming devices from local or remote network, with rule-based services to trigger multiple schedules and events.
- B. Basic Architecture
The VMS server must be a typical web-based server/client system. In a video surveillance system architecture, the Server serves as a video management service provider, aimed to run 24/7 offering non-stop services for clients. A Client makes requests of monitoring video streams or playback recordings to Server, which can reside on the same computer with server program (as from local) or on another computer (as from remote). Server starts automatically as soon as the **Server computer** (where it is installed) boots up, and operates in the background without requiring login by administrator. It would provide services over the TCP/IP network to multiple **Clients** upon request through HTTP Protocol.

There are two types of **Clients**: **Web Client** and **Workstation Client**. Live view, PTZ, Playback, e-Map, event management and setup functions are available through Web Client and Workstation Client.

1. Web Client: the web interface to access VMS server without need of installing any client program to become a client. Logging in the VMS server is as simple as visiting a website through Microsoft Internet Explorer browser.
 2. Workstation Client: the client application making accessing VMS server free from the use of browser .The workstation includes a set of programs that provide interface between users and the VMS server.
- C. IP Camera and Video Encoder Support
The VMS server supported ACTi IP cameras and video encoders to provide the different resolution from VGA to 5-Megapixel resolution and Motion Detection and PTZ.
Minimum Number of Clients: 1 local, 3 remote (concurrent)
Number of IP devices: Support at least 128 channels
Supported Video compression: H.264, MPEG-4, MJPEG
Supported frame rate: The live view and playback frame rate may vary between 1fps and 30fps, depending on the number of channels, current layout or CPU performance.
- D. Account Management
The system shall provide users account management, multi-level access permissions and be able to add user account from Microsoft Active Directory.
- E. System Log
The system log records the system information and users operations.
- F. License
If applicable, show licensing of software for 1, 3, and 5 years
- G. Mobile Solution
Provide Mobile Client application to remotely access NVR server on iPhone, iPad, iTouch and Android devices. It provides the following functions- live view, PTZ control, playback, event and time based search.
- H. Software Installation and Upgrade
The newest release version shall be downloaded and installed. The server would start its service right after installation completes, without the need to restart the server computer.
- I. Maximum local display resolution 1920 X 1080
- J. Key Features
1. Manage at least 128 IP cameras or video encoders
 2. Ability to Record at least 128 Channels
 3. Support H.264/MPEG-4/MJPEG formats up to 5-Megapixel resolution
 4. PTZ and speed control, preset points and tours, mouse PTZ
 5. Instant playback in live view window
 6. Synchronized playback
 7. Time and event based search
 8. Export video with Raw and AVI formats
 9. Event trigger, response and notification
 10. Scheduled, event triggered, manual recording and snapshot
 11. Remote access with Mobile Client, Web Client or Workstation
 12. Location-based management with eMap
 13. eMap with camera icons, mini live views, view linker and event status

2.2 VIDEO MANAGEMENT SYSTEM SOFTWARE FEATURES

A. Operating Modes

1. Live View: Display live view from cameras and devices, perform PTZ operations with mouse, view system log, receive alerts on the event panel, setup view layouts, perform manual recording or take a snapshot.
2. Playback: To find and playback existing recordings. Snapshots or video segments can be taken from playback files. Recorded files can also be exported to AVI format.

B. Live View

Provide the following minimum preview functions

1. View Manager: An interface to define display layouts and the pre-set cameras within layout in the public or private view.
2. View Patrol: Automatic switch between different views or devices
3. View Panel: Contains the list of pre-defined views for quick launch.
4. Digital Zoom: Zoom in/out digitally by PiP (Picture-in-Picture)
5. Camera Tree: Drag and drop video source from camera tree into display layout; display camera status on the tree
6. Manual Recording / Snapshot: Instant recording upon mouse click / Instant snapshot upon mouse click or hot key
7. Event Panel: Display event status upon alarm or upon connection loss or recovery between server and client or when the allocated disk space is full.
8. Dual Stream Management: Live view of stream 1 or stream 2 of dual stream devices.
9. Instant Playback: Instant playback in live view window

C. Search and Playback

Provide the following minimum search playback functions:

1. Recording Search: Search video recordings by time, event, channel, and listed as clickable thumbnails for full-size view and snapshot download
2. Playback Control: Continuous forward and backward playback with speeds 1x/2x/4x/8x or frame-by-frame; pause; stop.
3. Synchronized Playback
4. Manual Snapshot: Instant snapshot from playback upon mouse click
5. Digital Zoom: Zoom in/out digitally by PiP (Picture-in-Picture)
6. Video Export: Export video clips in AVI or RAW format

D. Setup

Provide the following minimum setup functions:

1. Users Management
2. Devices Management
3. Storage Settings
4. Recording and Schedule Management
5. Event Management
6. Language Settings
7. System Configuration

E. E-Map Functions

Provide the following minimum e-map functions:

1. Layout: Area maps with camera icons; small live view windows; View linker; Event trigger
2. Map Switch and Tour: Manual switch and auto tour modes selectable
3. Setup: e-Map image upload; camera positioning; Vision angle and pointed direction of camera; View positioning; Source positioning.
4. PTZ mode: Mouse PTZ mode to control e-Map video streams.

F. Recording and Schedule Management

Provide the following minimum recording functions:

1. Schedule Recording: Provide recording of video with user-defined schedule and time period.
2. Event Recording: Record video when the alarm event is triggered.
 - a. Pre-Event Recording: User-defined time period to record before event occurs. The minimum buffer is 5 seconds.
 - b. Post-Event Recording: User-defined time period to record after event occurs. The maximum buffer is 300 seconds.
3. Time segment: Offer the maximum 24 hours / 7 days
4. Speed Up: Different recording frame rate settings for non-event and triggered event.
5. Manual Recording: Instant recording upon mouse click.
6. Dual Stream Management: Recording of stream 1 or stream 2 of ACTi dual stream devices.

G. Storage Management

1. Interface: Serial ATA
2. HDD Bay: Minimum 8 disks (1 bay is occupied by system HDD)
3. RAID Level: Software RAID 0, 1
4. External Storage Support: iSCSI, eSATA, USB mass storage (USB 2.0)
5. Recording folder name and location is changeable.
6. Configure the system log keep days.

H. Event Management

Provide the following minimum event handling functions:

1. Event Trigger Types: Provide for event handling for event types including Video motion detection; Passive IR sensor; External device through digital input; Video loss and recovery; Network loss and recovery; Server loss and recovery; Disk full and Disk out found.
2. Schedule setting: Define the schedule of event manager to activate the defined event handling service.

I. Device Management

Provide the following minimum device management functions:

1. Support Auto search and Add devices manually.
2. Device properties can be synchronized automatically.
3. Configure Device Settings: Video attributes, Motion settings and PTZ function.
4. Provide device icon to show the device status.
5. Copy device settings to multiple devices.

J. PTZ Control Functions

Provide the following minimum PTZ control functions:

1. PTZ Management: Provide management of pan, tilt, zoom controls; speed control; both buttons and mouse controls.
2. Preset Points and Tours: Provide preset position controls including goto, set, clear preset positions and create auto tours between preset points.
3. Number of Preset Positions: Provide control for 32 preset positions.
4. PTZ Tours: Provide for patrol of preset positions with user-defined dwell time.
5. PTZ Pattern: Provide PTZ pattern control with execute of speed dome pattern commands.
6. Mouse PTZ Control: Provide on-screen 8-direction PTZ operation via mouse user interface that can be ran run in full-screen mode.
7. USB Joystick Control: Provide for PTZ control via a joystick connected to USB port.
8. Default Protocol: Auto-detect camera's PTZ protocol. Available protocols: ACTi, ACTi-D, ACTi-P, Dynacolor and Visca.

K. System Configuration

Provide the following minimum functions for system functions:

1. User management: Multiple number of groups and users, liveview/playback/setup/remote level permission, and adding user accounts from Active Directory.
2. Language: English support
3. Customizable User Interface: Define the layout of user interface for live view and playback.

Union School District CCTV Spec – 2014 V 2.0

L. Remote Access

Provide the following remote access functions:

1. PC Client Program: User interface program (Workstation) with live view, PTZ, playback, e-Map, event management and setup.
2. PC Web Browser: with live view, PTZ, playback, event management and setup.
3. Mobile Client Program: Mobile device application (Active Mobile Client) supports live view, PTZ control, playback, event and time based search. Supported devices: iPhone, iPad, iPod Touch and Android device.
4. Remote Client PC

M. Integration

1. Unified Solution: Fully compatible with ACTi cameras, video encoders and CMS2.0.

2.3 VIDEO MANAGEMENT SYSTEM HARDWARE

A. Server Requirements

Server shall run on a system with the following minimum requirements:

1. CPU: Intel Processor
2. RAM: At least 8GB
3. Ethernet Port: 2, Gigabit Ethernet (1000 Base-T), RJ-45 connector
4. USB: USB 2.0, 8 ports
5. PS/2: 1 port
6. eSATA: 2 ports
7. Display Port: 1 VGA port, 2 HDMI ports

2.4 Megapixel Camera – Indoor Dome

Provide ACTi Model E94 Megapixel camera with features and characteristics as follows:

1. [Link to Manufacture's Camera Specs](#)

2.5 Megapixel Camera – Outdoor Bullet

Provide ACTi Model E46 Megapixel camera with features and characteristics as follows:

1. [Link to Manufacture's Camera Specs](#)

2.6 Megapixel Dome Camera – Indoor 360 Camera

Provide ACTi Model KCM-3911 Megapixel IP camera with features and characteristics as follows:

1. [Link to Manufacture's Camera Specs](#)

3 EXECUTION

3.1 APPROVED MANUFACTURERS

A. ACTi

1. Product must come through approved Channel and must be compliant with Warrantee policies.

3.2 INSTALLATION

- A. All video signals from cameras in the system shall be home run to the terminating location as indicated on the drawings. Video signal cable shall be CAT6 cable. The contractor shall ensure video signal integrity against loss or attenuation and provide clean roll free switching.
- B. Video and control data cable shall not be contained in any conduits with high voltage.

- C. All wire shall meet code. Circuitry powering and connecting the camera units and the monitoring equipment shall be concealed within building confines, conduit or wire troughs. No wiring shall be left exposed and accessible to tampering or the harsh elements of the environment. Conduit, greenfield or junction boxes will be used where necessary to conceal the wiring. All cable utilized shall be identified with descriptive labels or keying system.
- D. Final code and local requirements for all security related equipment is the responsibility of the contractor and vendors. This includes but is not limited to National Electric Code, ANSI standards, ADA requirements, state and local codes and others required. Client no responsibility for these issues or their correction.
- E. All wire will be tagged for its purpose, origination and termination. Conduit will be required where necessary to protect wire, prevent interference and for code issues.
- F. All CCTV components require a clean, centralized and independent power circuit of 120 VAC. Supply circuit shall be indicated in the breaker panel.
- G. The power outlets will need a clean and independent power circuit with an isolated ground circuit. The circuit breakers for these outlets will be in a secure location in a locked electrical panel. Surge Protection will be required for each circuit to the CCTV system.
- H. The security vendor will be responsible for final calculations of power and signal runs to insure the wiring supplies a non-degraded signal and power requirements that meets manufactures specifications for the equipment.
- I. Bending and pulling tensions will not be exceeded per the cable manufacturer specifications. Contact manufacturer for specific requirements of the cable to be pulled.
- J. All wiring/cabling must be clearly labeled and easily accessible with the beginning and termination point with correct identification.
- K. The security vendor will make every effort to prevent and reduce Ground loop problems.
- L. The security vendor shall ensure that the equipment in the main command center provides the lowest resistance path to ground.

3.3 NETWORK DISTRIBUTION

- A. Encoder cable runs, and any IP transmission shall be of CAT 6 with matching RJ-45 crimp type connectors, and shall be installed with a control crimp tool, specified by the connectors' manufacturer.
- B. All video signals from cameras in the system shall be home run to the closest respective IP Security Video System encoder secured in an electrical room or in a separate secured rack and connected to the IP Network and recorded on the network storage manager.

3.4 CABLE TESTING

- A. The following tests will be performed to ensure that the cable is installed correctly:
 - 1. Wire Map
 - 2. Length
 - 3. Insertion loss (Attenuation)
 - 4. NEXT loss (Near-End Crosstalk)
 - 5. PSNEXT loss (Power Sum Near-End Crosstalk)
 - 6. ELFEXT loss
 - 7. PSELFEXT loss (Power Sum Equal Level Far-End Crosstalk)
 - 8. Return loss
 - 9. ACR (Attenuation to Crosstalk Ratio)
 - 10. PSACR (Power Sum Version of ACR)
 - 11. Propagation Delay
 - 12. Delay Skew
- B. Model Number: Fluke Networks DTX-1800 Cable Analyzer.

3.5 POWER

- A. Provide power supplies as required at each camera location as designated on the power riser drawing.
- B. All source voltage shall be conditioned to protect from environmental conditions, power surge, power sag, under-voltage, over-voltage, line noise, frequency (variation of the waveform), transients and harmonic distortion.
- C. The circuit breakers adequate for the system load shall not draw over 80% of the rated capacity under normal operating conditions.
- D. Power quality shall be measured using a power quality analyzer.

3.6 ENVIRONMENTAL REQUIREMENTS

- A. The installation site shall be completely clean and devoid of the dust and debris created during the construction process. Operation of the equipment should not begin (even for testing purposes) until all construction has been completed.
- B. Upon completion of the work, remove excess debris, materials equipment, apparatus, tools and the like and leave the premises clean neat and orderly.

3.7 WARRANTY

- A. All security system components, Software, Hardware, and are to be fully warranted for parts and labor for a minimum of one year from the final successful acceptance of this project. In the event any component manufacturer warranties the item for longer than one year, the vendor will repair or replace parts and/or labor per the warranty for the length of this warranty at no cost to the client. Software/Firmware versions or other replaceable programming and revisions are guaranteed to be the latest versions/revisions for this one year.
- B. The vendor will contact the equipment's manufacturer one month before the warranty is to expire to establish if a new version has become available. If newer versions become available it will be provided and installed at no cost. If it is later determined that a new version had become available and was not provided, the vendor will provide and install the current version at no cost no matter when the discovery was made.

3.8 SUBMITTALS

- A. Product Data: Include detailed manufacturer's product specifications for each component specified. Include data sheets reflecting the model numbers, features, ratings, performance, power requirements, and dimensions
- B. Shop Drawings: For the IP Video Security System equipment shall include plans, elevations, sections, details, and attachments to other Work.
- C. Include dimensioned plans and elevation views of components and enclosures. Show access and workspace requirements. Shop drawings shall include mounting details for all racked equipment. Such details shall include all mounting brackets, hardware, and connections to the building.
- D. Wiring Diagrams: Power, signal, and control wiring point-to-point diagrams. Differentiate between manufacturer-installed and field-installed wiring.

Union School District CCTV Spec – 2014 V 2.0

- E. It is the Contractors responsibility to submit for approval the complete designed system configuration and layout showing all devices, wiring, conduit, and locations along with other required information as specified herein for the completely integrated system proposed for installation
- F. Coordination Drawings: Plans drawn to scale and coordinating locations of IP Video Security System equipment. Show the following:
- G. Location of items requiring installation coordination including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and other architectural features.
- H. Product Certificates: Signed by ACTi as Certified for installation of equipment and components certifying that products furnished to the Contractor comply with requirements
- I. Installer Certificates: Signed by ACTi certifying that installers comply with manufacturers requirements for Installation
- J. Field Test Reports: Indicate and interpret test results for compliance with performance requirements of installed systems

3.9 TRAINING

- A. The entire system shall be tested and demonstrated in the presence of Client representatives. The Contractor shall promptly make all corrections and adjustments necessary for intended operation to the satisfaction of the owner. Vendor will be required to provide training in the complete use of all parameters of the system to the staff as part of this contract, at no additional cost. Training should be configured so as to take a person to a level of competence that will permit their being melded into the ongoing daily console operations with a minimum of disruption to the integrity of their normal daily functions. Training is to be provided at the site or a facility maintained either by the vendor or manufacturer. All expenses such as transportation, lodging and meals are to be borne by the vendor.